Remarks

Reconsideration and withdrawal of the rejections of the claims, in view of the amendments and remarks herein, is respectfully requested. Claims 53-55, 57, 64, 70, 72-75, and 77-80 are amended, claims 1-52, 56, 65, 69, 71, and 76 are canceled, and claims 81-82 are added. The amendments are intended to advance the application and are not intended to concede to the correctness of the Examiner's position or to prejudice the prosecution of the claims prior to amendment, which claims are present in a continuation of the present application. Claims 53-55, 57-64, 66-68, 70, 72-75, and 77-82 are now pending in this application.

The Examiner rejected claims 53-57, 64-65 and 70-80 under 35 U.S.C. § 112, first paragraph, as lacking an adequate written description in the specification. In particular, the Examiner asserts that the specification does not describe the structure of any antisense oligonucleotides that could inhibit PBR expression or any genes comprising SEQ ID NO:1 or 2 other than SEQ ID NO:1 and SEQ ID NO:2, nor any physical or chemical characteristics of antisense oligonucleotides that could inhibit PBR expression, nor any functional characteristics coupled with a known or disclosed correlation between structure and function. Moreover, the Examiner asserts that the specification does not describe a representative number of species of antisense oligonucleotide reciting structural features common to the members of the genus. This rejection, as it may be maintained with respect to the pending claims, is respectfully traversed.

To provide an adequate written description for a claimed genus, the specification can provide a sufficient description of a representative number of species by an actual reduction to practice, reduction to drawings or by a disclosure of relevant, identifying characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics. "Guidelines for Examination of Patent Applications under 35 U.S.C. § 112(1) Written Description Requirement," Fed. Reg., 66, 1099 (2001). Satisfactory disclosure of a representative number of species depends on whether one skilled in the art would recognize that Applicant was in possession of the necessary common attributes or features of the elements possessed by members of the genus. "Guidelines for Examination of Patent Applications under the 35 U.S.C. § 112(1) Written Description Requirement," Fed. Reg., 66, 1099 (2001). Furthermore, the Federal Circuit has held that the written description requirement can be met by a functional description of claimed materials, if it is coupled with a known or

disclosed correlation between function and structure. Enzo Biochem, Inc., v. Gen-Probe, Inc., 296 F.3d 1316, 63 U.S.P.Q.2d 1609 (Fed. Cir. 2002).

The present application discloses SEQ ID NO:1 and SEQ ID NO:2, both of which are 652 bases long and represent partial PBR gene sequences isolated from two human breast cancer cell lines, in particular, MDA-231 and MCF-7, respectively, by RT-PCR (see, for example, page 15, lines 22-27 and page 33, lines 16-20). The present application discloses that SEQ ID NO:1 and SEQ ID NO:2 encode SEQ ID NO:3, a sequence of 169 amino acid residues. Amino acid residues 1-26 of SEQ ID NO:3 are depicted by "Xaa," *i.e.*, are "unknown or other" residues (M.P.E.P. 2400; 37 C.F.R. § 1.821). Amino acid residues 27-169 of SEQ ID NO:3 align with the amino acid sequence of human PBR as disclosed in Figure 3 of Riond *et al.*, Eur. J. Biochem., 195:305-311 (1991), with the exception of (i) amino acid residue 147, which is Thr in SEQ ID NO:3 as compared to an Ala in the Riond *et al.* sequence; and (ii) amino acid residue 162, which is an Arg in SEQ ID NO:3 as compared to His in the Riond *et al.* sequence. Moreover, there are four differences (mutations) between SEQ ID NOs:1 and 2 as compared to the nucleotide sequence of Riond *et al.* These differences are disclosed in the present application at page 15, line 27-page 16, line 5. It is also disclosed that antisense PBR sequences that are capable of hybridizing to PBR RNA can inhibit or reduce PBR levels (page 26, lines 6-9).

As amended, the claims are directed to isolated nucleic acid with a sequence that is complementary to SEQ ID NO:1 or SEQ ID NO:2, and capable of hybridizing to nucleic acid encoding SEQ ID NO:3 and inhibiting expression of PBR nucleic acid.

Therefore, one of ordinary skill in the art in view of Applicant's specification would be apprised that Applicant was in possession of the claimed invention. Accordingly, withdrawal of the § 112(1) "written description" rejection is respectfully requested.

The Examiner also rejected claims 53-57, 64-65, 74-75, and 77-80 under 35 U.S.C. § 112, first paragraph, for lack of enablement. The cancellation of claims 56 and 65, and the amendment to claim 53 to recite the complement of SEQ ID NO:1 or SEQ ID NO:2, in view of the Examiner's acknowledgement that SEQ ID NO:1 or SEQ ID NO:2 could potentially inhibit PBR expression (page 10 of the Office Action), render the enablement rejection of claims 53-57 and 64-65 moot.

With respect to claims 74-75 and 77-80, it is Applicant's position that at the time of Applicant's filing, it was well within the skill of the art to screen for sequences that inhibit expression of a particular gene (see, e.g., Reddy and Low, In: Critical Reviews in Thoracic Drug Carrier Systems, 15:587 (a copy is enclosed herewith).

Further, the fact that the outcome of a screening program to identify 7 to 40 nucleotides of the complement of SEQ ID NO:1 or SEQ ID NO:2 that inhibit expression of a PBR encoding nucleic acid may be unpredictable, is precisely why a program is carried out. The Examiner simply cannot reasonably contend that a program to locate biomolecules with target biological or physical properties would not be carried out by the art because the results cannot be predicted in advance.

In fact, the Federal Circuit has explicitly recognized that the need, and methodologies required, to carry out extensive synthesis and screening programs to locate biomolecules with particular properties do not constitute undue experimentation. In re Wands, 8 U.S.P.Q.2d a400, 1406-1407 (Fed. Cir. 1988), the Court stated:

> The nature of monoclonal antibody technology is that it involves screening hybridomas to determine which ones secrete antibody with desired characteristics. Practitioners of this art are prepared to screen negative hybridomas in order to find one that makes the desired antibody.

Likewise, practitioners in the art related to the present application would be well-equipped to prepare and/or screen 7 to 40 nucleotides of the complement of SEQ ID NO:1 or SEQ ID NO:2 to identify those that inhibit expression of a PBR encoding nucleic acid. See also, Hybritech Inc. v. Monoclonal Antibodies Inc., 231 U.S.P.Q. 81, 84 (Fed. Cir. 1986) (evidence that screening methods used to identify characteristics [of monoclonal antibodies] were available to art convincing of enablement). Thus, the fact that a given claim may encompass a variety of molecules is not dispositive of the enablement issue, particularly in an art area in which the level of skill is very high and in which screening of large numbers of compounds has been standard practice for at least ten years (Ex parte Forman, 230 U.S.P.Q.2d 456 (Bd. App. 1986).

Thus, Applicant's specification is fully enabling.

Therefore withdrawal of the § 112(1) enablement rejection is respectfully requested.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6959 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date June 27, 2005

By _____
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 27 day of June, 2005.

LISA POSORSKE

Name

Lisa Posorske

Signature